Chronic Disease

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Chronic Disease

Chronic disease is defined as disease or illness that is prolonged and rarely cured. It affects people of all ages and all walks of life from newborns to the elderly and from the wealthy to the impoverished, as well as men and women of all ethnic groups and education levels.

Chronic diseases comprise the leading causes of death in Utah. Over 70% of deaths are attributable to chronic disease.[1] About 683,000 Utahns suffer from one or more chronic disease ranging from minor illness to severely disabling illness.[2] Many chronic diseases impose significant activity limitations that change people's physical and mental health, social life, and employment.

The cost of chronic diseases is a burden on public and individual resources. In Utah, the public funds 60% of the cost of chronic disease.[3] This is due in part to the fact that thousands of Utahns are uninsured. Those with chronic diseases are more likely to be excluded from insurance coverage.

It is estimated that at least 50% of illness and death due to heart disease, cancer, and diabetes alone can be prevented by widespread adoption of healthy lifestyles, early detection, and treatment services.[4]

This section will review major chronic diseases as well as selected behaviors that have a direct impact on chronic disease such as diet, physical activity, and smoking. The efforts being made to decrease the burden of chronic diseases in Utah are highlighted in the following topics:

- Arthritis
- Breast Cancer
- Colorectal Cancer
- Coronary Heart Disease
- Dental Caries (cavities)
- Diabetes Mellitus
- Fruit and Vegetable Consumption
- Lung Cancer
- Obesity
- Physical Activity
- Smoking

Activity Limitation Due to Arthritis

Definition: The Utah Arthritis Program defines individuals with activity limitation due to arthritis as those who have arthritis or chronic joint symptoms, who provide a positive response to a BRFSS survey question "Are you now limited in any way in any activities because of joint symptoms?"

National Objective: By 2010, reduce from 27% to 21% the proportion of adults with chronic joint symptoms who experience a limitation in activity due to arthritis.

CFHS Objective: By 2010, reduce by 20% the proportion of adults with chronic joint symptoms who experience a limitation in activity due to arthritis.

How are we doing? Nationally, the prevalence of limited activity due to arthritis is reported to be 27 percent based on the National Health Interview Survey (NHIS) and the National Health and Nutrition Examination Survey (NHANES). The national objective is to reduce this rate by 20 percent. In Utah, the Behavioral Risk Factor Surveillance System (BRFSS) results have revealed that 29% of Utahns have diagnosed arthritis or chronic joint symptoms. Of these, 42% have limited activity because of their chronic joint symptoms or arthritis.

How does Utah compare with the U.S.? Because the NHIS and NHANES surveys ask questions differently than the Utah BRFSS, comparisons can not be made. However, local and national comparisons will be made when the complete year 2000 Utah BRFSS data are available and national estimates using BRFSS are available.

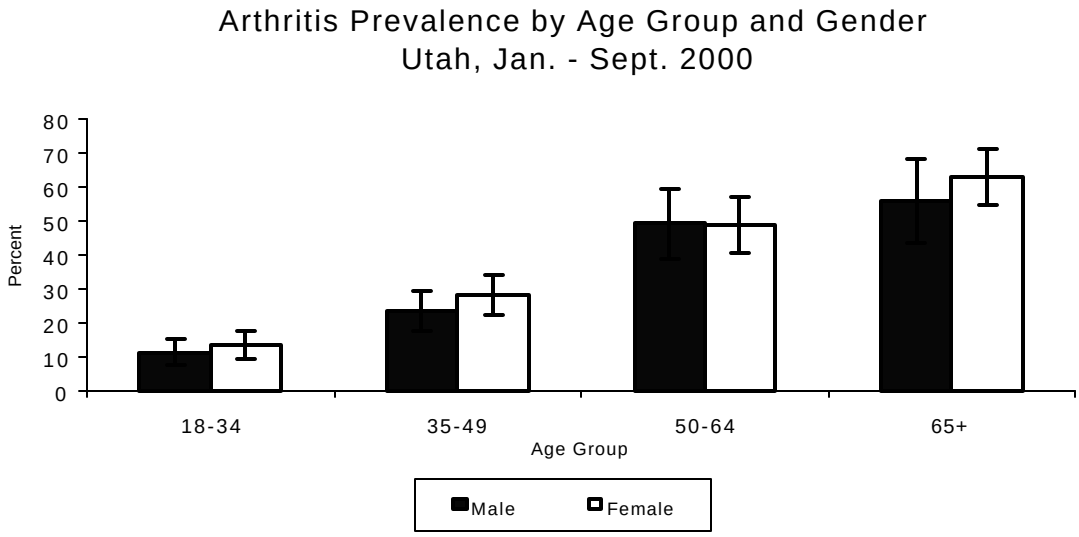
Why is it important? Arthritis encompasses more than 100 diseases and affects nearly one of every six Americans, making it one of the most common diseases in the United States. By the year 2020, an estimated 60 million people will be affected. Arthritis and other rheumatic conditions affect quality of life in many ways. Activity limitation occurs frequently among persons with arthritis and is an important functional element that can compromise independence. Arthritis is likely to be the number one cause of activity limitations in the United States.

Activity limitations due to arthritis may also indirectly affect health and independence by decreasing physical activity, increasing weight, and placing persons at higher risk for all the adverse outcomes of those risk factors.

What are the risk factors? While everyone is at risk of arthritis, prevalence is:[2]

- ✓ tripled between the age groups 35-49 and 50-64
- ✓ at least double among those who earn $15,000 or less per year
- ✓ higher in women than men
- ✓ increased with higher body mass index

Figure 1:



Utah BRFSS Survey

What are we doing? The Utah Arthritis Program is working closely with the Centers for Disease Control and Prevention (CDC), the Utah/Idaho Chapter of the Arthritis Foundation, and local health departments to build a comprehensive, effective program. The goals of this coalition include:

- ✓ Increasing public awareness of arthritis as the leading cause of disability and an important public health problem
- ✓ Promoting early diagnosis and appropriate management
- ✓ Minimizing preventable pain and disability due to arthritis
- ✓ Supporting people with arthritis in developing and accessing the resources they need to cope with their disease
- ✓ Ensuring that people with arthritis receive the family, peer, and community support they need.

The UDOH Arthritis Program is developing an arthritis surveillance system and is working with the Arthritis Foundation to increase participation in arthritis self-help courses. Effective messages are being developed and appropriate channels to reach individuals and encourage them to participate in self-help courses are being identified. An Advisory Committee and an Internal Work Group have been formed. The group consists of community experts and advocates helping to develop a Utah Arthritis Plan.

Related measures and information: When the complete year 2000 BRFSS data are available we will be able to:

- ✓ Make comparisons to national data
- ✓ Assess duration of activity limitation
- ✓ Assess the extent and type of activity limitation. ♦

Breast Cancer Mortality

Definition: The rate of breast cancer deaths is defined as deaths per 100,000 U.S. or Utah women.

National Objective: By 2010, reduce the breast cancer death rate to 22.2 deaths per 100,000 females.

CFHS Objectives:
By 2010, decrease the age adjusted mortality rate for female breast cancer in Utah to 22.2/100,000.
Utah baseline: 26.5/100,000 in 1995.
Recent data: 27.1/100,000 in 1998.

By 2010, increase the percent of female breast cancers that are detected at 1 cm or less in size to 50 percent.
Utah baseline: 32% in 1994.
Recent data: 22.5% in 1998.

How are we doing? Utah's death rate from breast cancer has changed little over the past decade. The rate was 28.9 per 100,000 females in 1988 compared to 27.1 per 100,000 females in 1998 (rates are age-adjusted to the 2000 U.S. standard population).[5]

How does Utah compare with the U.S.? The female breast cancer mortality rate in Utah has been consistently lower than the rate for the U.S. For example, during 1993-1997, Utah had the second lowest breast cancer mortality rate in the nation of 20.4 per 100,000 compared to 24.8 per 100,000 respectively (rates are age-adjusted to the 1970 U.S. standard population).[6]

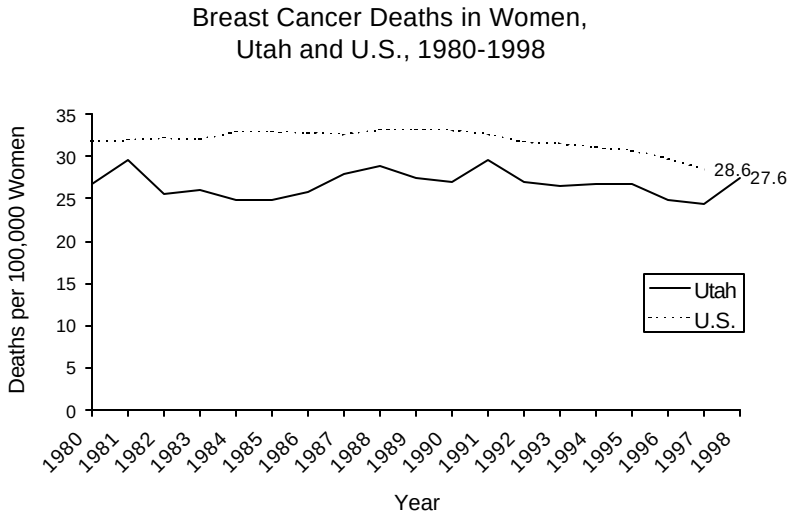
Why is it important? Breast cancer is the most commonly occurring cancer among U.S. women and a leading cause of female cancer death in both Utah and the U.S. Deaths from breast cancer can be substantially reduced if the tumor is discovered at an early stage. Mammography is currently the best method for early detection of malignancies. Clinical trials have demonstrated that routine screening with mammography can reduce breast cancer deaths by 20 to 30 percent in women age 50 to 69 years,[7,8,9,10,11,12] and by about 17 percent in women age 40 to 49 years.[13,14]

What are the risk factors? The most important risk factor for breast cancer is advancing age. Other established risk factors include:

- ✓ Personal or family history of breast cancer
- ✓ History of abnormal breast biopsy
- ✓ Genetic alterations
- ✓ Early age at onset of menses
- ✓ Late age at onset of menopause
- ✓ Never having children or having a first live birth at age 30 or older
- ✓ History of exposure to high dose radiation.

Associations have also been suggested between breast cancer and oral contraceptives, estrogen replacement therapy, obesity (in post-menopausal women), alcohol, and a diet high in fat. Older, minority, lower income women and women living in rural areas of Utah are at higher risk of dying from breast

Figure 2:



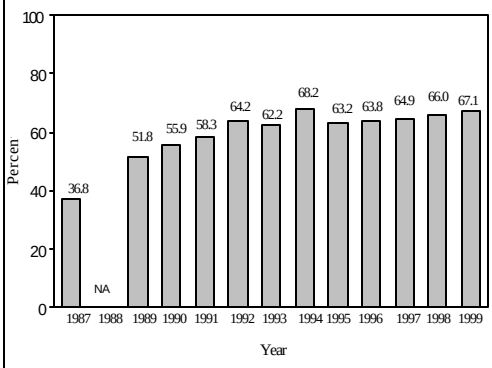
Note: Age-adjusted to U.S. 2000 population, ICD-9 codes 174
Sources: Population Data - Utah Governor's Office of Planning and Budget; Utah death data - UDOH, Office of Vital Records and Statistics; U.S. data - CDC Wonder

cancer because they often experience greater difficulty accessing preventive health care.

What are we doing? The Utah Cancer Control Program (UCCP) provides free or low cost clinical breast exams and/or mammograms to women who meet age and income guidelines. Participating providers offer diagnostic evaluation to eligible women with abnormal screening exams. The UCCP also provides education about the need for early detection and the availability of screening services, collects outcome data, and disseminates information about breast cancer.

Contextual information:
Breast and cervical cancer screening has been identified as one of the top 10 priority issues of the Utah Department of Health.[15] The 2000 Utah Legislature approved a resolution encouraging private health insurance companies and employers to include insurance coverage for the screening and detection of breast, colorectal, and prostate cancers. The UCCP receives CDC and state funding for breast cancer screening. The UCCP and partners, including local health departments, mammography facilities, pathology laboratories, and private providers, have worked together to ensure the appropriate and timely provision of clinical services.

Figure 3:



Source: Utah BRFSS

Colorectal Cancer Mortality

Definition: Colorectal cancer mortality is the rate of death from cancer of the colon or rectum among Utah and U.S. residents per 100,000 persons.

National Objective: By 2010, reduce the colorectal cancer death rate to 13.9 deaths per 100,000 population.

CFHS Objectives:
By 2010, decrease the age-adjusted mortality rate for colorectal cancer in Utah to 13.9/100,000.
Utah baseline: 20.2/100,000 in 1995.
Recent data: 18.8/100,000 in 1998.

By 2010, increase the percent of colorectal cancers that are detected at an early, localized stage of disease.
Utah baseline: 46% in 1998.

How are we doing? Utah's death rate from colorectal cancer has changed little over the past decade. It was 15.1 per 100,000 population in 1988 and 18.8 per 100,000 population in 1998 (rates are age-adjusted to the 2000 U.S. standard population).[16]

How does Utah compare with the U.S.? The colorectal cancer mortality rate in Utah has been consistently lower than the rate for the U.S. For example, during 1993-1997, Utah had the lowest colorectal cancer mortality rate in the nation: 12.3 per 100,000 compared to 17.2 per 100,000 respectively (rates are age-adjusted to the 1970 U.S. standard popualtion).[6]

Why is it important? Colorectal cancer is the second leading cause of cancer-related deaths in the U.S. and Utah. Deaths from colorectal cancer can be substantially reduced when pre-cancerous polyps are detected early and removed. A randomized clinical trial has demonstrated that annual screening with the fecal occult blood test (FOBT) can reduce colorectal cancer deaths by 33 percent in individuals over age 50.[17] FOBT and sigmoidoscopy are used to screen for colorectal cancer and a colonoscopy and barium enema are used as diagnostic tests.

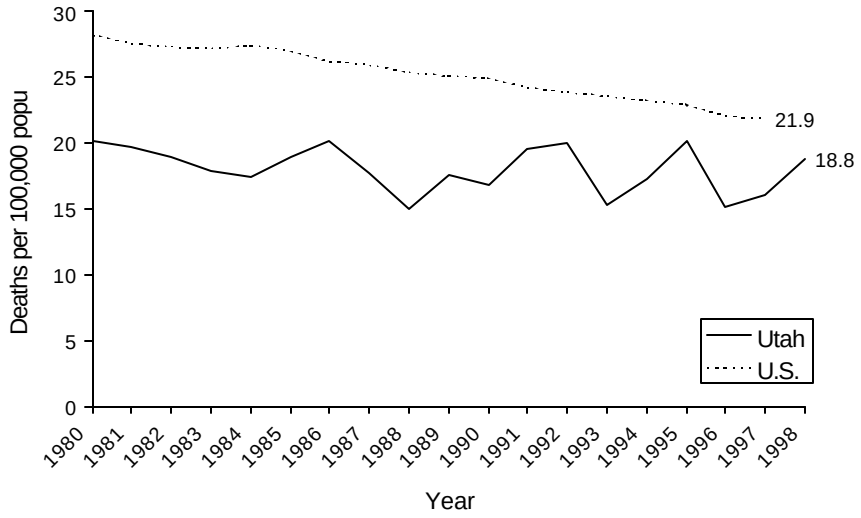
What are the risk factors? Risk factors for colorectal cancer include:

- ✓ Advancing age
- ✓ Family history of polyps or colorectal cancer
- ✓ Personal history of polyps or colorectal cancer
- ✓ Inflammatory bowel disease
- ✓ Inherited syndromes
- ✓ Personal history of endometrial, ovarian, or breast cancer.
- ✓ Physical inactivity (colon cancer only)

What are we doing? The Utah Cancer Control Program (UCCP) provides free FOBT kits upon request to women who are present for screening at a UCCP sponsored breast and cervical cancer screening clinics. A pathologist reads the tests and individuals with abnormal

Figure 4:

Colorectal Cancer Deaths, Utah and U.S., 1980-1998



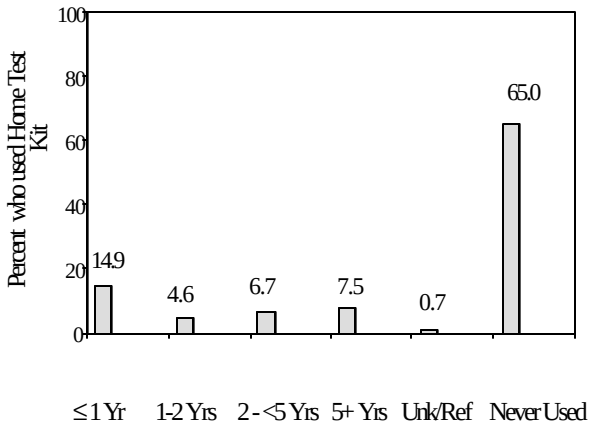
Note: Age-adjusted to U.S. 2000 population, ICD-9 codes 153.0-154.1, 159.0
Sources: Population Data - Utah Governor's Office of Planning and Budget; Utah death data - UDOH, Office of Vital Records and Statistics; U.S. data - CDC Wonder

results are notified by the UCCP so that they may seek further evaluation with their health care providers. The UCCP supports the CDC Screen for Life educational campaign and monitors the use of colorectal cancer screening tests by Utahns through the statewide Behavioral Risk Factor Surveillance System (BRFSS). The UCCP participates on the American Cancer Society's Colorectal Cancer Committee.

Contextual information: The 2000 Utah Legislature approved a resolution encouraging private health insurance companies and employers to include insurance coverage for the screening and detection of breast, colorectal, and prostate cancers. Screening for colorectal cancer has recently been identified by the Centers for Disease Control and Prevention as a priority public health issue.♦

Figure 5:

Use of Blood Stool Test Home Kit by Utahns 50+: 1999



Utah Department of Health, Behavioral Risk Factor Surveillance System

Coronary Heart Disease Mortality

Definition: Coronary heart disease (CHD) death rate is defined as the rate of Utah residents (per 100,000) dying from heart attacks, "sudden death" or other chronic heart conditions causing inadequate blood flow to the heart in one calendar year.

National Objective: By 2010, reduce coronary heart disease deaths to no more than 166.0/100,000 people, a 20% reduction from the 1998 baseline of 208.0/100,000.
U.S. baseline: 208/100,000 in 1998.

CFHS Objective: By 2010, reduce coronary heart disease deaths to no more than 109.4/100,000 people, a 20% reduction for Utah.
Utah baseline: 136.8/100,000 in 1998.

How are we doing? Deaths due to CHD have declined over the past ten years by 26.7% for males (from 251.0 in 1989 to 184.0 in 1998), and by 32.5% for females (from 150.3 in 1989 to 101.7 in 1998). Seventeen counties (58.6% of Utah's 29 counties) have CHD death rates higher than the state rate.[18]

How does Utah compare with the U.S.? Utah's 1998 age-adjusted CHD death rate of 136.8/100,000 is 34.7% lower than the 1998 U.S. rate of 208.0/100,000. Two counties in Utah have CHD death rates higher than the U.S.[18,19]

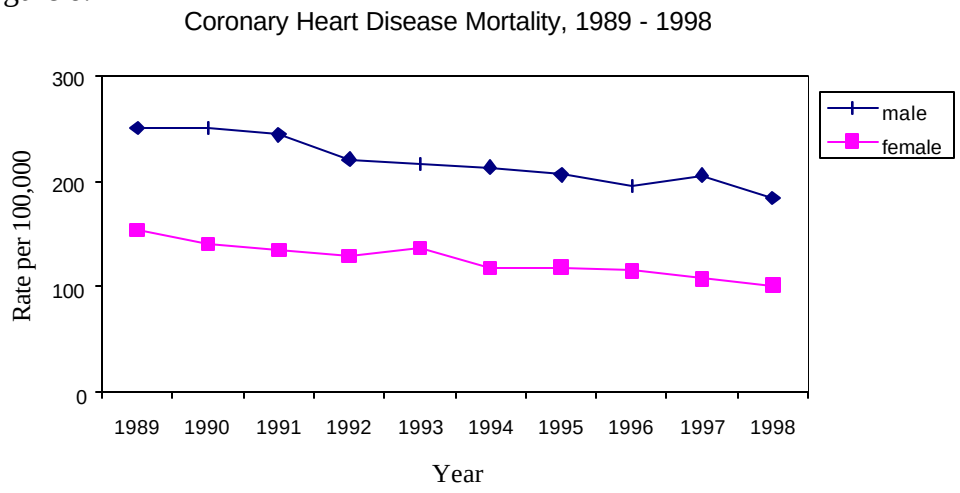
Why is it important? Cardiovascular (CVD) disease (including stroke) is the leading cause of death, disability, and health care costs in Utah, accounting for approximately 3,700 deaths each year, one death every 2.5 hours. Coronary heart disease is the largest component of CVD and most responsive to risk reduction and treatment.

What are the risk factors?
Modifiable risk factors for CHD include:
Behaviors: Tobacco use, physical inactivity, and improper nutrition.
Health status: High blood pressure, high cholesterol, overweight, diabetes.
Policies: A lack of policies to promote physical activity, non-smoking, and reduce youth access to tobacco makes it more difficult to modify risk factors.

Great differences in death rates and access to treatment and preventive measures also exist by race, age, gender, family history of CHD, place of residence and other demographic factors.

What are we doing? CFHS promotes cardiovascular health through the Cardiovascular Health Program. Adequate physical activity in schools and work places, non-smoking policies for public places and strictly regulated youth access to tobacco products are policies promoted by the Cardiovascular Health Program. Activities are targeted to schools, work places, health care and community sites, and directly reach over 100,000 Utahns each year. Media

Figure 6:



Office of Vital Records and Statistics, Death Certificate data. Utah Department of Health UDOH
*Age adjusted to 2000 U.S. Population

campaigns and special events provide over 5 million impressions of prevention messages annually. Activities include:

- ✓ Generating public knowledge, awareness and demand for healthy choices at school, work, and in the community
- ✓ Developing and advocating for environmental and policy changes to support these healthy choices
- ✓ Providing data, education and other resources to health care providers, teachers, and other partners involved in the prevention of CHD and promotion of health.

Contextual information: There are 3 important factors that influence the ability to make an impact on CHD:
1) Although cardiovascular disease is the leading killer, it is so prevalent and takes so long to manifest itself, that it is not perceived by the public as a high profile disease. This has resulted in cardiovascular disease becoming a low priority with local, state, and federal policy makers and decision-makers. Since it is the leading cause of death, it must become a leading priority!
2) Seventy-five percent of Utah women are unaware that heart disease is the leading cause of death for women as well as for men. They are less likely to be treated aggressively, and outcomes are less successful for women than men. Several education efforts must be employed to change this.
3) New treatment technologies for heart attacks and strokes require reduced time from event to treatment in the emergency room (less than one hour in some cases) to be more effective. This will require teamwork and collaboration by a variety of agencies and new public and professional education efforts.

Related measures: Utah's 1998 rate for stroke deaths is slightly lower than the U.S. rate, 58.2/100,000 for Utah, compared to 63.5/100,000 for the U.S.[19,20] Hospital charges for CHD continue to rise approximately 8%-12% per year, totaling 121.9 million dollars and $342 million for all cardiovascular disease in 1998.[21] ♦

Dental Caries Among Children

Definition: Dental caries, or cavities, among 6-8 year old children are defined as any carie in a primary or permanent tooth regardless of treatment (e.g. filled, untreated).

National Objective: By 2010, reduce dental caries in primary and permanent teeth so that the proportion of children who have had one or more cavities is no more than 40 percent among children aged 6-8.
U.S. baseline: 52% in 1988-1994 data

CFHS Objective: By 2010, reduce dental caries in primary and permanent teeth so that the proportion of children who have had one or more cavities is no more than 55 percent among children aged 6-8.
Utah baseline: 65% in 1996.
Recent data: 65% in 1996.

How are we doing? Although the dental caries rate is declining, Utah still lags behind the national rate. Utah is the least fluoridated state in the nation[22], leading to a greater risk of dental caries among children. In 1982, the average 8 year old child surveyed had 1.02 dental caries in permanent teeth and 3.16 dental caries in primary teeth. In 1996, the average number of dental caries was 0.64 and 2.75 respectively. [23]

How does Utah compare with the U.S.? Utah's rate of dental caries is much higher than the nation's. In a 1996 study among 6-8 year old children, 65% of Utah's children had at least one decayed or filled tooth and 30% had untreated tooth decay.[23] A 1988 study showed 52% of children in the U.S. had at least one decayed or filled tooth and 29% had tooth decay that was untreated.[24]

Why is it important? Dental disease is one of the most preventable health problems in Utah affecting at least 65% of 6 to 8 year old children. The bacteria that causes dental disease have been associated with other health concerns including pre-term labor, cardiovascular disease, and diabetes. Dental disease can be prevented by professional, personal, and social interventions.

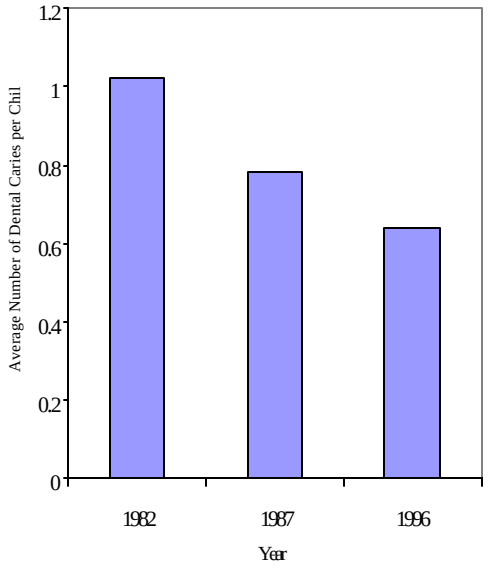
What are the risk factors? Risk factors for dental disease include:

- ✓ Low socioeconomic status[25]
- ✓ Certain racial and ethnic groups[25]
- ✓ Lack of dental insurance
- ✓ Lack of access to dental care[26]
- ✓ Lack of water fluoridation[27]

What are we doing? The Oral Health Program collaborates with the Oral Health Task Force in the Salt Lake Valley Health Department and will be expanding to two other local health departments during 2001. The program is extensively involved in the community water fluoridation efforts and active in the FACT Initiative to

Figure 7:

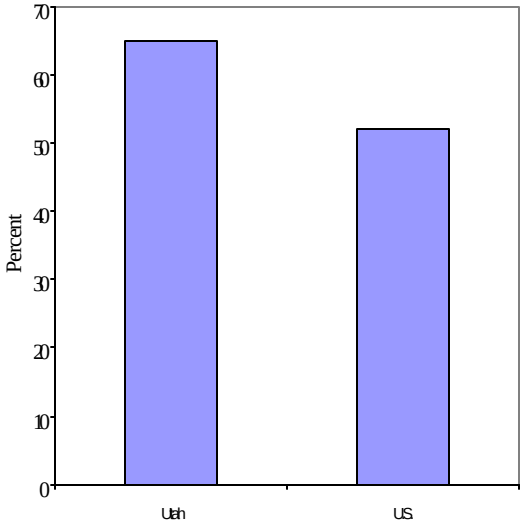
DMF in Permanent Teeth in 8 Year Old Children in Utah, 1982, 1987, 1996



DMF = Decayed missing and filled teeth
Source: UDOH Oral Health Program, State survey data

Figure 8:

Percentage of 6-8 Year Old Children with Dental Caries in Utah and the U.S., 1994



Source: Utah State data, 1996
U.S. data, NHANES data, CDC, NCHS, 1994

improve the oral health of children in high-risk populations. The program also collaborates with other entities such as the Children's Health Insurance Program (CHIP), the Women, Infants, and Children Special Supplemental Feeding Program (WIC), Head Start, Council for People with Disabilities, and professional dental organizations to improve access to dental service for underserved populations.

Accomplishments include: 1) Tracking the percent of third grade children who have received protective sealants on at least one permanent molar tooth, and 2) Increasing to at least 60% the proportion of children who have received protective sealants on the occlusal surfaces of permanent molar teeth.

Contextual information: In the United States, community water fluoridation has been the basis for the primary prevention of dental decay for nearly 55 years and has been recognized as 1 of 10 great achievements in public health of the 20th Century.[27] Efforts were successful in getting fluoridation on the ballot in Davis County, Salt Lake County, and four cities in Cache County. Fluoridation was approved by the community in the 2000 election for Davis and Salt Lake counties.

Related measures:

- ✓ 43% of 8 year old children have sealants[23]
- ✓ 3% of Utah's population drinks fluoridated water[22] ♦

Diabetes Mellitus:

Cardiovascular disease deaths to persons with known diabetes

Definition: Deaths due to cardiovascular disease in known persons with diabetes. Deaths due to any major cardiovascular disease as the underlying cause of death, with diabetes as any contributing cause, per 100,000 persons with diabetes, age-adjusted to the year 2000 U.S. standard population.

National Objective: By 2010, reduce deaths from cardiovascular disease in persons with diabetes from 343 deaths per 100,000 persons with diabetes to no more than 309 deaths per 100,000 persons with diabetes.

CFHS Objective: By 2010, reduce deaths due to cardiovascular disease in Utahns with diabetes from 262 per 100,000 Utahns with diabetes to no more than 236 per 100,000.

By 2004, increase the percent of Utahns with diabetes that receive at least one lipid profile test per year to 75%.

How are we doing? Diabetes-related deaths in Utah have increased substantially over the past 10 years. Cardiovascular disease is a major underlying cause of death for persons with diabetes mellitus.

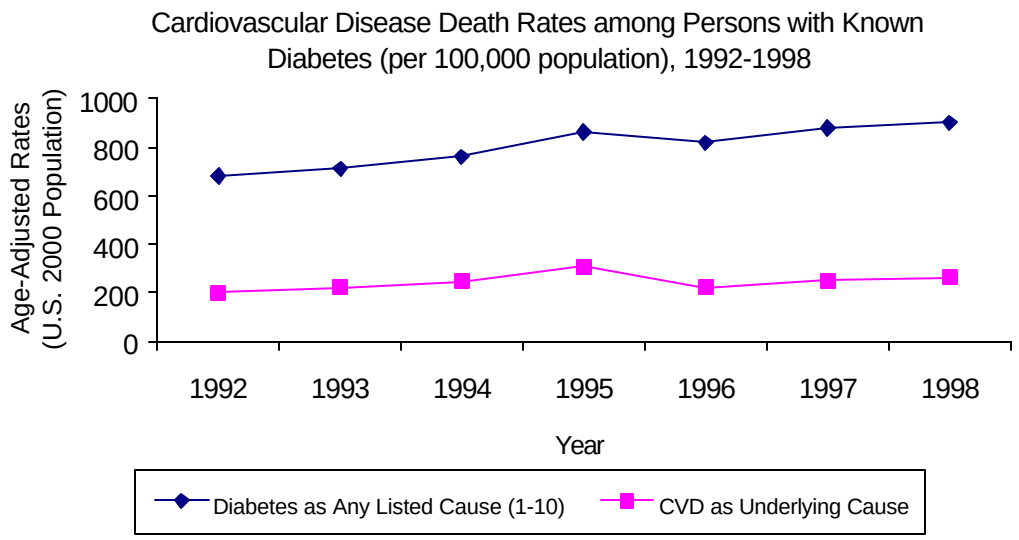
How does Utah compare with the U.S.? Nationally, there were 343 deaths from cardiovascular disease per 100,000 persons with diabetes in 1997 (age-adjusted to the year 2000 standard population).[28] In 1998, the age-adjusted death rate in Utah was 262 deaths from cardiovascular complications (defined as the underlying cause of death with cardiovascular and diabetes as a contributing cause) per 100,000 Utahns with diagnosed diabetes, age-adjusted to the year 2000 U.S. standard population.[2]

Why is it important? Cardiovascular disease is the leading cause of morbidity and mortality among people with diabetes. People with diabetes are two to four times more likely to have a heart attack or stroke than people without diabetes. Seventy-five percent of all diabetes-related deaths are from cardiovascular complications. Quality of life is reduced and disability is increased with the presence of cardiovascular disease. The risk for developing cardiovascular disease increases with the number of risk factors a person has for developing the disease. Prevalence of multiple risk factors is higher in the diabetic population than in the non-diabetic population.

What are the risk factors? Risk factors for death due to cardiovascular disease among those with diabetes include:

- ✓ Duration of diabetes
- ✓ High LDL cholesterol
- ✓ Hypertension (high blood pressure)
- ✓ Inactivity
- ✓ Poor diet

Figure 9:



Source: Office of Vital Records and Statistics, UDOH
ICD-9 390-448 as underlying cause and ICD-9 250 (Diabetes) as any contributing cause

What are we doing? The Diabetes Program is distributing Utah Diabetes Control Practice Recommendations to providers, educators, health plans and consumers. The program is educating providers and patients about the need for regular lipid profiles, blood pressure measurement, and aggressive treatment for persons with diabetes. They are certifying effective diabetes self-management training, working with community health centers to improve diabetes care through process improvement, and working with third party payers to improve the standard of care for Utahns with diabetes.

Contextual information: Diabetes is consistently under-reported as a cause of death on death certificates. Better reporting will lead to a more accurate assessment of the real impact of diabetes on mortality rates.

Related measures:

- ✓ Twenty-five percent of Utahns with diabetes report being physically inactive[2]
- ✓ Only 44% of Utahns with diabetes who were insured by a commercial health plan or Medicaid received a lipid profile in 1998[29]
- ✓ More than 50% of Utahns with diabetes have hypertension[2]
- ✓ Only 31% of Utahns with diabetes insured by a commercial health plan or Medicaid had LDL cholesterol levels of less than 130mg/dl. This is the recommended level for those with risk factors[29]
- ✓ More than 45% of Utahns with diabetes are obese[2] ♦

Fruit and Vegetable Consumption

Definition: Eating at least two servings of fruit and three servings of vegetables, for at least five combined servings every day.

National Objective: By 2010, increase the proportion of persons ages 2 years and older who consume at least 2 daily servings of fruit to 75% and those who consume 3 daily servings of vegetables (one being dark green or deep yellow) to 50%.

CFHS Objective: By 2010, increase the proportion of persons ages 2 years and older who consume at least 2 daily servings of fruit to 60% and those who consume 3 daily servings of vegetables to 40%.

How are we doing? In 1997, 27.1% of Utah adults reported eating 5 or more servings of fruits and vegetables a day[30] and 31.6% of adolescents grades 9-12 reported eating 5 or more servings a day.[31] Both proportions are significant increases over 1995 and 1996 data. The average number of servings per day for Utah adults has increased from 3.6 in 1994 to 4.2 in 1997.

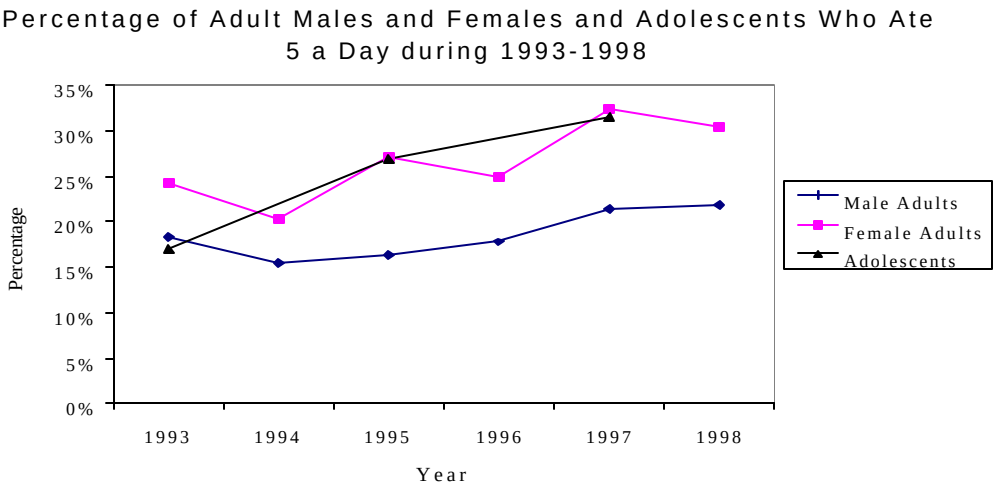
How does Utah compare with the U.S.? Utahns are eating more fruits and vegetables than the U.S. overall. In 1997, 29.3% of U.S. adolescents reported eating 5 servings of fruits and vegetables, while 31.6% of Utah's adolescents (ages 12-18) reported getting their "5 a Day." For adults, 19.4% of U.S. males and 27.9% of U.S. females reported eating at least 5 servings a day, while 21.9% of Utah males and 30.4% of females reported eating 5 or more servings each day.[30,31]

Why is it important? Research suggests a diet of five or more servings of fruits and vegetables per day is associated with reduced risk of some types of cancers, coronary heart disease, diabetes, and other chronic diseases. For children and adolescents, dietary habits established during youth may extend into adulthood and affect the prevalence and burden of future chronic diseases. Even though the percent of Utahns eating 5 or more servings per day is increasing annually, less than one-third eat 5 or more per day, putting a large proportion of the population at risk.

What are the risk factors? According to the 1998 BRFSS, the following groups are less likely to eat 5 or more servings of fruits and vegetables per day:

- ✓ Men of all ages
- ✓ Females age 18-44 years
- ✓ Less than a high school education
- ✓ Income less than $35,000 per year
- ✓ Black, non-Hispanic ethnicity

Figure 10:



Behavior Risk Factor Surveillance Study
Youth Behavior Risk Factor Surveillance Survey

What are we doing? The 5 a Day Program has been successful in:

1) Targeting efforts to appropriate risk populations based on consumer research and marketing principles
2) Establishing partnerships in the private and public sector to generate funding and resources
3) Creating media and community events that annually generate over 10 million media impressions, reaching our residents an average of 5 times
4) Providing information, expertise and support to the communities and health professionals
5) Strengthening school food service policies, curricula and community environments to promote 5 a Day and other healthy choices and
6) Continuing to implement and evaluate population-based interventions

Contextual information: The 5 a Day program continues to be a model for population-based community interventions. It is a simple, straight-forward message, a direction to positive action (rather than a "Don't Do It" message), and it doesn't change from one day to the next to confuse the public. The program is promoted in work, school, health care, and community sites. The measures below indicate the program's success.

Related measures: Awareness of the 5 a Day message has increased from 4.2% in 1995 to 35.3% in 1999 (BRFSS 1995-1999). Of those who have heard the 5 a Day message, the proportion who know what the "5" refers to has increased from 41% in 1995 to over 80% in 1999. Efforts to increase fruit and vegetable consumption in a pilot middle school through the school lunch program increased participation in the school lunch program by 10% over the same period last year. Grocery stores in communities with 5 a Day promotions report more than a 30% increase in produce sales than before the promotion.♦

Lung Cancer Mortality

Definition: Lung cancer mortality is the rate of lung cancer deaths among Utah and U.S. residents per 100,000 persons.

National Objective: By 2010, reduce the lung cancer death rate to 44.8 deaths per 100,000 population.

CFHS Objective: By 2010, decrease the age-adjusted mortality rate for lung cancer in Utah to 20.0/100,000.
Utah baseline: 26.2/100,000 in 1995.
Recent data: 27.6/100,000 in 1998.

How are we doing? Utah's death rate from lung cancer has changed little over the past 15 years and was 24.0 per 100,000 population in 1983 compared to 27.6 per 100,000 population in 1998 (rates are age-adjusted to the 2000 U.S. standard population).[32]

How does Utah compare with the U.S.? The lung cancer mortality rate in Utah is less than half the U.S. rate. In fact, during 1993-1997, Utah had the lowest lung and bronchus cancer mortality rate in the nation (21.0 per 100,000 compared to 49.2 per 100,000 respectively, rates are age-adjusted to the 1970 U.S. standard population).[6]

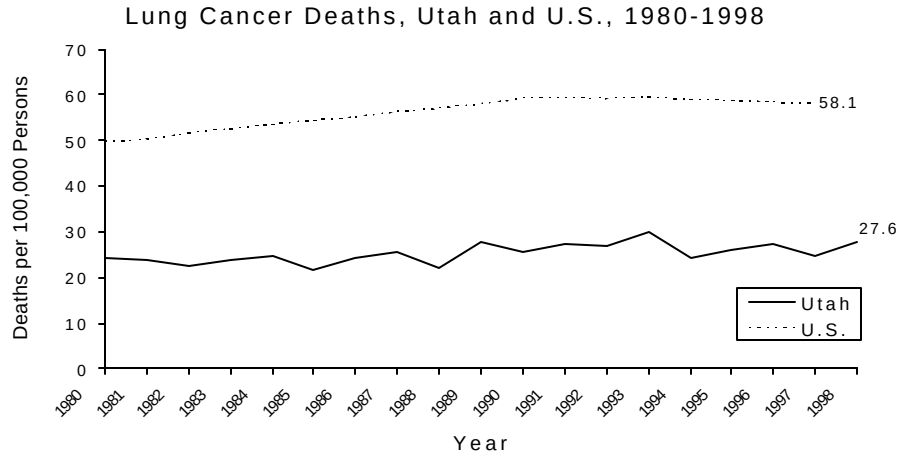
Why is it important? Lung cancer is the leading cause of cancer-related deaths in Utah and the U.S. The American Cancer Society estimates that lung cancer will be the cause of 28% of all cancer deaths in 2000. Because symptoms often do not appear until the disease is advanced, early detection of this cancer is difficult.

What are the risk factors?
Cigarette smoking is the most important risk factor for lung cancer. In addition, smoking is a major cause of heart disease, bronchitis, emphysema, and stroke. Other risk factors include:

- ✓ Exposure to radon or asbestos
- ✓ Indoor and outdoor air pollution, including environmental tobacco smoke

What are we doing? Utah's public health efforts to reduce the adverse health effects of tobacco use have focused on 1) limiting exposure to environmental tobacco smoke, 2) reducing youth access to tobacco products, 3) increasing availability of cessation services, 4) providing information on tobacco use prevention, and 5) monitoring smoking prevalence. The Utah Department of Health's Tobacco Prevention and Control Program monitors smoking prevalence among adult Utahns through the statewide Behavioral Risk Factor Surveillance System (BRFSS) and among children and teenagers through the Youth Risk Behavior Survey (YRBS).

Figure 11:



Note: Age-adjusted to U.S. 2000 population, ICD-9 codes 162.2-162.9
Sources: Population Data - Utah Governor's Office of Planning and Budget; Utah death data - UDOH, Office of Vital Records and Statistics; U.S. data - CDC Wonder

Contextual information: According to the Centers for Disease Control and Prevention, tobacco use is the single most preventable cause of death and disease in our society. Comprehensive tobacco control programs produce substantial reductions in tobacco use in states that have implemented such programs. These programs prevent initiation among youth, promote quitting among adults and youth, and reduce exposure to environmental tobacco smoke. Utah's Indoor Clean Air Act, enacted during the 1994 legislative session, is one of the nation's toughest laws aimed at reducing environmental tobacco smoke.

Related measures:

- ✓ In 1998, the Utah Cancer Registry reported 460 new cases of lung cancer. Approximately 15% of these cancers were detected while still localized.
- ✓ According to the 1999 BRFSS, 14% of adult Utahns currently smoke.♦

Obesity

Definition: Obesity is defined as having a body mass index (BMI) of 30 kg/m^2. Overweight is defined as having a body mass index (BMI) of >25-29.9 kg/m^2.

National Objective: By 2010, reduce the proportion of adults who are obese to 15%.
U.S. baseline: 23% ages 20 years and older in 1999-1994.

CFHS Objective: By 2010, reduce the proportion of adult Utahns who are obese to no more than 10%.
Utah baseline: 16.7% in 1998.

How are we doing? In just five years the proportion of obese Utahns increased 72.1% percent, from 9.7% in 1994 to 16.7 % in 1998.[30, 31]

How does Utah compare to the U.S.? In 1998, the obesity prevalence rate in Utah was 16.7%. The obesity prevalence for the U.S. during 1998 was 17.9%.[30]

Why is it important? Obesity is the second leading cause of preventable death in the United States.[33] Only smoking exceeds obesity in contributing to total U.S. mortality rates.[34] Adults who are overweight or obese have increased risk for morbidity from hypertension, high LDL cholesterol, type 2 diabetes, coronary heart disease, stroke, osteoarthritis, sleep apnea, respiratory problems and endometrial, breast, prostate and colon cancers.[35] The direct and indirect costs of obesity in the U.S. approximated 10% of the national health care budget.[36]

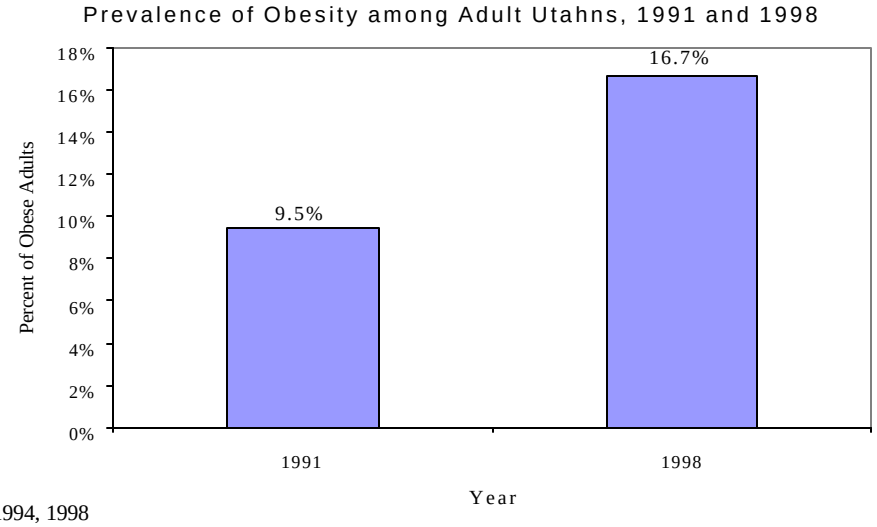
What are the risk factors? It is not clear whether obesity that begins in early childhood carries a greater risk for adult morbidity and mortality. Only 15-30% of adult obesity is a result of obesity that was present in childhood or adolescence.[37] Overweight and obesity are more prevalent among:

- ✓ Women with lower income and less education
- ✓ African American and Hispanic women
- ✓ Men

What are we doing? The Utah Department of Health (including the Utah State Council on Health and Physical Activity, Cardiovascular Program, and Diabetes Program) promotes physical activity through A Healthier You 2002™, Utah's Health Legacy project. Utahns are encouraged to participate in physical activity and eat a healthy diet including five servings of fruits and vegetables a day. The Cardiovascular Health Program encourages all people to get 30 minutes of physical activity each day. This is accomplished through school, worksite and community based programs with adults, children, and adolescents. The Cardiovascular Health Program promotes healthy eating by:

1) Providing and maintaining a website that includes information on strategies for eating right and healthy recipes

Figure 12:



BRFSS 1994, 1998

2) 5 a Day education in elementary and middle schools to increase fruit and vegetable consumption and
3) Promoting the use of the American Heart Association Heart Power kits as a resource for schoolteachers to teach healthy eating habits.

Contextual information: People tend to overestimate height and underestimate weight, so the true obesity prevalence may be underestimated in self-reports. Recommended strategies for weight loss in overweight and obese individuals include:

- ✓ Diet therapy (e.g. low fat, reduced calorie)
- ✓ Physical activity
- ✓ Behavior therapy (e.g. stimulus control, contingency management, social support)
- ✓ Pharmacotherapy (e.g. prescription drugs).[35]

Although there have been no prospective trials to show changes in mortality with weight loss in obese patients, reductions in risk factors would suggest that development of type 2 diabetes and CVD would be reduced with weight loss.[35] Lost weight will usually be regained unless a weight management program, including dietary modification, physical activity and behavior therapy is continued "indefinitely."[35]

Related measures:

- ✓ 28.8 % of adult Utahns were overweight in 1998 [30]
- ✓ Almost half of all Utah adults, 49.1%, are either overweight or obese [30]
- ✓ Only 20 % of people who report trying to lose weight report using the recommended combination of eating fewer calories and getting more physical activity.[38]
- ✓ Only 27.1 % of Utah adults get the recommended 30 minutes of moderate intensity physical activity most days of the week. [30] ♦

Physical Activity

Definition: Moderate activity is defined as physical activity that uses about 150 calories per day or 1000 calories per week. This is equivalent to walking a 20 minute mile, stair-walking for 15 minutes, bicycling 5 miles in 30 minutes or swimming laps for 20 minutes. For this report, moderate activity data are identified by BRFSS definition of regular and sustained physical activity (people who report physical activity 5 or more sessions per week, 30 minutes or more per session, regardless of intensity).

National and CFHS Objectives:
Increase the proportion of adults who engage regularly, preferably daily, in moderate physical activity for at least 30 minutes per day to at least 30%.
U.S. baseline: 15 percent in 1997.
Utah baseline: 27.1 percent in 1998.

Increase the proportion of the nation's public and private schools that require daily physical education for all students to 25% for middle and junior high and 5% for senior high schools.
U.S. baseline: Middle and junior high schools 17%, high schools 2% in 1994.

CFHS Objective: Increase the proportion of Utah's public and private elementary schools that have and observe a policy for 90 minutes of physical education for all students to 50%.
Utah baseline: To be collected during 2000-2001.

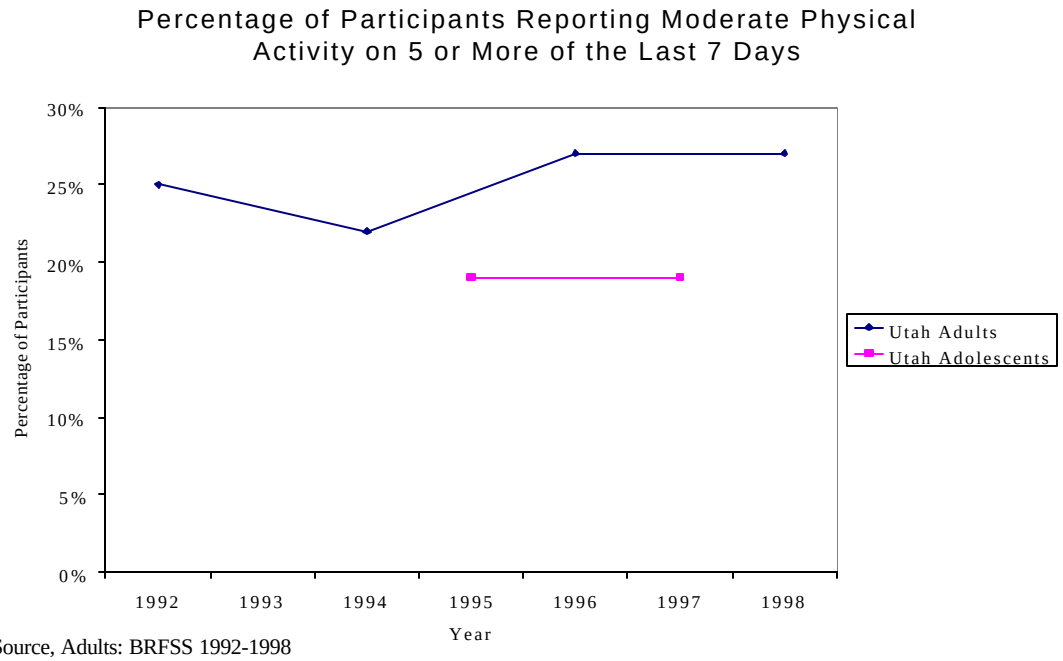
How are we doing? Over the past ten years (1985-1996), physical activity levels of adult Utahns have neither increased nor decreased. Physical activity levels of adolescents have remained stable since 1995.[30, 31]

How does Utah compare to the U.S.? When compared to the nation, Utahns were more physically active. In 1998, 27.1% of Utahns engaged in 30 minutes of moderate intensity physical activity. Nationally, the rate was 20.4%. In Utah only 19 percent of students participated in moderate physical activity on 5 or more of the last 7 days. Nationally, the rate was 20%.[30,31]

Why is it important? The benefits of physical activity are numerous. Regular physical activity is associated with:

- ✓ Lower death rates of any age
- ✓ Decreased risk of death from heart disease
- ✓ Lower risk of developing diabetes
- ✓ Decreased risk of colon cancer
- ✓ Prevention of high blood pressure
- ✓ Reduced blood pressure in persons with elevated levels
- ✓ Increased muscle and bone strength
- ✓ Increased lean muscle
- ✓ Decreased body fat
- ✓ Aid in weight control
- ✓ Weight loss
- ✓ Enhanced psychological well-being
- ✓ Reduced risk of developing depression
- ✓ Reduced symptoms of depression and anxiety
- ✓ Improved mood

Figure 13:



Source, Adults: BRFSS 1992-1998
Youth: YRBS, 1995 and 1997

What are the risk factors? Risks related to physical inactivity vary among population groups. The percentage of people who report no physical activity during leisure time is higher among:

- ✓ Women
- ✓ African Americans and Hispanics
- ✓ Older adults
- ✓ People with a higher body mass index
- ✓ People with less formal education and less income.

Utah data reveal a correlation between a sedentary lifestyle and low income and low educational attainment. However, there are no significant differences between age and location of residence (rural vs. urban) and the likelihood of being sedentary. All non-White races combined in Utah are more sedentary than Whites, though all combined non-White races comprise less than five percent of the total population. There are insufficient data available to examine non-White races individually.[39] It is well documented that physical activity levels of children decline as they progress through adolescence.[40,41,42] There is a fifty percent decrease in physical activity from ages six to sixteen with the steepest decline in physical activity occurring during adolescence (ages 15-18) and young adulthood (ages 20-25).[42,43] In females, there is a decrease in physical activity as they move from the eleven to thirteen age group to the fourteen to sixteen age group.[44] Youth Risk Behavior Survey data both nationally and in Utah indicate that physical activity levels decline dramatically between grades nine to twelve.[31]

What are we doing? The Cardiovascular Health Program

promotes physical activity among Utahns by working collaboratively with communities, work sites, schools, and local health departments. Activities include:

- ✓ Development of physical activity directories
- ✓ Coordination of community advisory groups
- ✓ Classroom resources
- ✓ Development of non-competitive school-based and community-based intramural clubs
- ✓ Participation in Healthier You 2002 Gold Medal Award School Program

The Utah State Council on Health and Physical Activity promotes physical activity among adults through worksites including sponsorship of the annual worksite health promotion conference, and A Healthier You 2002™, Utah's Health Legacy project.

Contextual information: Obtaining valid and reliable measures of physical activity is challenging. The definitions and measures used by major data sources, such as The Centers for Disease Control and Prevention BRFSS, continue to change, thus making tracking of Healthy People objectives difficult at best.

Related measures:

- ✓ In Utah, the average number of students attending physical education classes one or more days declined from 61% in 1991 to 52% in 1997.[31]
- ✓ In 1997, 62% of ninth grade students were enrolled in physical education, compared to 32% at grade twelve.[31]
- ✓ In 1998, only 11% of Utah work sites with 50 or more employees reported having a policy for employee physical activity.[45] ♦

Smoking (Tobacco Use)

Definition: Cigarette smoking is defined here as having smoked at least 100 cigarettes in one's entire life and smoking every day or some days at the time of the survey (adults). For youth, smoking status is defined as having smoked on 1 or more of the 30 days prior to being surveyed.

National and Utah Objectives:
By 2010, reduce cigarette smoking by adults aged 18 years and older to 12%.
U.S. baseline: 23.2 percent (1997)
Utah baseline: 13.8 percent (1997)

By 2010, reduce cigarette smoking by students in grades 9 through 12 to 8%.
U.S. baseline: 36 percent (1997)
Utah baseline: 16.4 percent (1997)

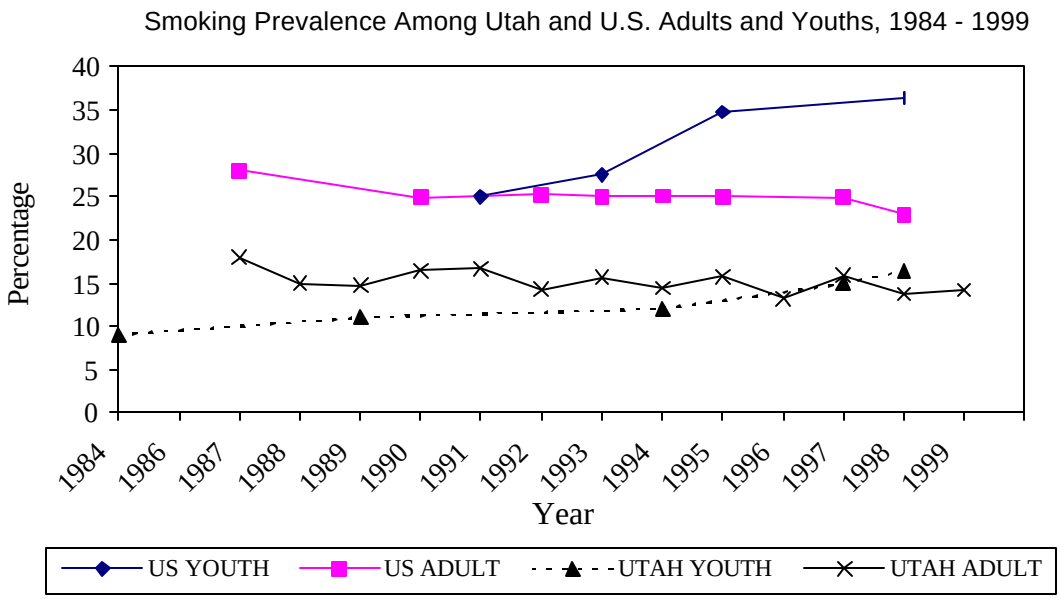
How are we doing? Tobacco use, specifically cigarette smoking, among adults in Utah has been the lowest in the nation for many years. However, reductions in smoking among adults seen nationally have not been seen in Utah. There appears to be a plateau effect in Utah. Adult cigarette smoking has been essentially unchanged at approximately 14 percent for the past five years.[43] The national Youth Risk Behavior Survey (YBRS) indicated Utah teen smoking rates have remained constant from 1991 to 1997. Other Utah data, however, indicate there has been a significant increase in youth smoking.[46]

How does Utah compare with the U.S.? As noted above, Utah's adult smoking rate is the lowest in the nation. In 1999, Utah's adult smoking rate was 14.0 percent compared with the national rate of 22.6 percent. Smoking among U.S. youths, represented by students in grades 9 through 12, was 36.4 percent in 1997. Utah's youth rate in 1997 was 16.4 percent. Although Utah's adolescent smoking rate may be climbing, it is significantly lower than the national average.

Why is it important? Cigarette smoking is the single most preventable cause of disease and death in the United States and accounts for more deaths each year than AIDS, alcohol, cocaine, heroin, homicide, suicide, motor vehicle crashes and fires combined. This is true in Utah as well as in the U.S. as a whole. The list of diseases associated with tobacco number into the dozens. The national cost in lives exceeds 400,000 per year, with the direct monetary costs amounting to approximately $50 billion each year.[47] The direct monetary cost attributable to tobacco use to Utah State Government for the period from 1990 to 1998 is estimated at approximately $140,000,000.[3] This does not include the significantly higher costs incurred by the private sector through increased insurance premiums and out-of-pocket costs.

What are the risk factors? Adverse effects of cigarette smoking risk are not limited to smokers themselves; they include those exposed to

Figure 14:



Behavior Risk Factor Surveillance Study
Youth Behavior Risk Factor Surveillance Survey

environmental tobacco smoke (ETS). Children of smokers are particularly susceptible to the effects of ETS and suffer increased rates of heart and lung diseases. Nationally, it is estimated that ETS causes 3,000 lung cancer deaths each year among adult nonsmokers.[47]

Risk factors are almost exclusively related to adolescents and youth as 90% of smokers started and became addicted while still teenagers. Risk factors for tobacco use include:

- ✓ Young people with lower socioeconomic status
- ✓ Pressure exerted by peers who use tobacco
- ✓ Parental usage
- ✓ Youth who overestimate the number of young people who smoke

Personal perceptions regarding self-image and a sense that tobacco usage is associated with independence and maturity are also strong risk factors. Gender, once strongly associated with risk, is no longer a significant factor in determining who will become smokers. Nationally, White adolescents are more likely to smoke than are their Black or Hispanic counterparts.[48] However, in Utah, racial and ethnic disparities are reversed, with non-Whites smoking at rates that are significantly higher than the White population.[49] The only exception in Utah is among youth of Polynesian background whose rates are lower than all others including Whites.

What are we doing? The Tobacco Prevention and Control Program is implementing a comprehensive plan developed by a coalition of more than forty organizations concerned with improving health through reducing tobacco use.[50] This plan, "Achieving the Vision – A Tobacco Free Tomorrow,"

consist of four major components, each with several subcomponents. The four program areas are:

1) Anti-Tobacco Media and Marketing Campaign
2) Integrated Family, School, and Neighborhood Prevention Programs
3) Health Care and Neighborhood Cessation Programs
4) Research and Evaluation.

Contextual information: Currently, there are numerous activities that will continue to make an impact on tobacco prevention and control in the future. The primary fiscal component supporting tobacco prevention and control activities is the Master Settlement Agreement (MSA) reached between major tobacco product manufacturers and the attorney generals of the majority of the states in the U.S. During FY 2001, the MSA will provide $4 million for tobacco prevention and control activities through the UDOH. A major source of federal funding includes an estimated $1.17 million from the Centers for Disease Control. This funding will permit expansion of grant programs to local health departments and other community agencies, expansion of counter-marketing campaigns, continuation of surveillance programs and other community based control activities.♦

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